

IN THE CLAIMS

Claim 1 has been amended as follows:

1. (Currently amended) An electrical coil suitable for use as a gradient coil for a magnetic resonance apparatus, comprising:
at least one electrical conductor configured in a coil pattern;
a carrier structure formed by a resin casting for said electrical conductor which
fixes said coil pattern of said electrical conductor in a predetermined
configuration; and
~~a cooling device component; and~~
a non-resinous heat insulator disposed between at least one section of said
conductor and said carrier structure.

2. (Previously amended) An electrical coil as claimed in claim 1
wherein at least a portion of said conductor is a hollow cylinder adapted for guiding a
flowing cooling medium therein.

Claim 3 has been amended as follows:

3. (Currently amended) An electrical coil as claimed in claim 1
comprising a cooling device component and wherein said at least one section of said
electrical conductor is a first section and wherein said cooling device component
cools at least one second section of said electrical conductor.
4. (Previously amended) An electrical coil as claimed in claim 3
wherein said at least one second section of said electrical conductor proceeds in an
edge region of a spatial extent of said coil.
5. (Previously amended) An electrical coil as claimed in claim 3
wherein said coil has a spatial extent forming a hollow cylinder, and wherein said at

least one second section of said electrical conductor proceeds in a region of a front side of said hollow cylinder.

6. (Previously amended) An electrical coil as claimed in claim 1 wherein said heat insulator surrounds said electrical conductor.

7. (Original) An electrical coil as claimed in claim 1 wherein said heat insulator has a lower thermal conductivity than said carrier structure.

8. (Original) An electrical coil as claimed in claim 7 wherein said thermal conductivity of said heat insulator is lower by a factor between 1 and 3 than the thermal conductivity of the carrier structure.

9. (Cancelled)

10. (Previously amended) An electrical coil as claimed in claim 1 wherein said carrier structure includes elements for reducing a non-homogeneity of a magnetic field in which said carrier structure and said electrical conductor are disposed.

11. (Original) An electrical coil as claimed in claim 1 wherein said heat insulator comprises fibrous material.

12. (Original) An electrical coil as claimed in claim 1 wherein said heat insulator comprises high-resistance foam material.

13. (Original) An electrical coil as claimed in claim 1 wherein said heat insulator is composed of material selected from the group consisting of glass, ceramic, mineral materials and polymer materials

14. (Cancelled)

15. (Cancelled)